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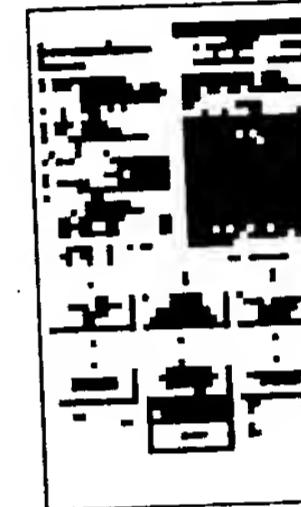
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② Title: **JP11012207A2: IMPROVED CATALYST FOR HYDROGENATING AQ MALEIC ACID CAPABLE OF BEING HYDROGENATED TO PRODUC BUTANEDIOL**

② Country: JP Japan

② Kind: A

② Inventor: JOHN G FRAY JR;
THOMAS G ATTIG;
JOHN R BUDGE;② Assignee: **STANDARD OIL CO:THE**
[News, Profiles, Stocks and More about this company](#)② Published / Filed: **Jan. 19, 1999 / June 11, 1997**② Application Number: **JP1997000154056**

C07C 31/20; B01J 23/64; B01J 23/656; B01J 23/68; B01J 37/12;
C07C 29/149; C07B 61/00;

② Priority Number: **June 11, 1997 JP19971997154056**

② Abstract:

PROBLEM TO BE SOLVED: To provide a process for maximizing the production of 1,4-butanediol.

SOLUTION: This process for producing 1,4-butanediol contains a process for bringing a precursor capable of being hydrogenated into contact with a hydrogen-containing gas and a hydrogenation catalyst to catalytically hydrogenate the precursor. The hydrogenation catalyst contains at least one of the group VIII noble metals and at least one of rhenium, tungsten and molybdenum deposited on a carbon carrier. The carbon carrier is brought into contact with an oxidizing agent selected from nitric acid, hydrogen peroxide, sodium hypochlorite, ammonium persulfate and perchloric acid, before the metal is deposited.

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② Family: None

② Forward References:

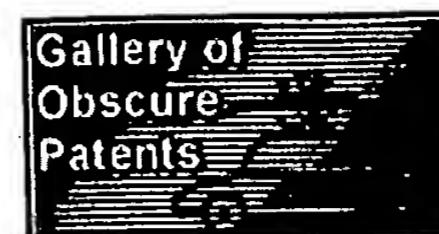
PDF	Patent	Pub.Date	Inventor	Assignee	Title
<input checked="" type="checkbox"/>	US6369445	2002-04-09	Khoury; Theodore A.	Advantest Corporation	Method and apparatus for connection between elem an integrated circuit

② Other Abstract Info:

CHEMABS 130(09)109961T CHEMABS 130(09)109961T DERABS C1999-148492 DE
C1999-148492

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(71) Applicant: STANDARD OIL CO:TI

(72) Inventor: JOHN G FRAY JR
THOMAS G ATTIG
JOHN R BUDGE

(74) Representative:

**(54) IMPROVED CATALYST
FOR HYDROGENATING
AQUEOUS MALEIC ACID
CAPABLE OF BEING
HYDROGENATED TO
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(57) Abstract:

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